For Release at 2030 Hours CDT
9 May 1961

ADDRESS BY
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TO THE
FOREIGN POLICY ASSOCIATION OF NEW ORLEANS
9 MAY 1961 -- 2030 HOURS, CDT

COMMUNISM AND SCIENCE

Mr. Walther,
Members of the Foreign Policy Association of New Orleans,
Ladies and Gentlemen:

It is always a pleasure to come to New Orleans. I am honored by the opportunity to meet with so many of you here tonight.

My wife's father came from this part of the country, and I am sorry she is not here with me. We both look upon New Orleans as one of the most charming spots in the whole United States.

There is no doubt we live in critical times, and this is one of the periods when the crises seem to be tumbling over themselves in world affairs. This country faces serious and immediate threats in the far corners of the earth, such as Laos, and indeed throughout the Far East and Asia; in the Congo and the rest of Africa; and much closer to home, in Cuba.

You will appreciate that there are excellent and sound reasons for my not going into the details about some of these current problems

which are extensively covered in the news. When the Foreign Policy Association of New Orleans first extended me the gracious invitation to talk to you, I determined that it should be on a topic worthy of your mettle. When crises pile up, it becomes increasingly important to keep a steady view and to recognize the nature of the challenge we face over the long haul.

My subject, then, has been chosen deliberately and with forethought, and concerns a challenge which builds slowly but steadily and is one of the sources of power which give rise to brush fires here and there.

I am an optimist about the world situation. I believe the challenge is great but that we shall meet it by mustering our full resources against it. Mr. Jesse Core's Grandfather served with my Grandfather in an earlier time of great adversity. Then American was pitted against American. While the immediate cause may have been lost, the qualities which moved them to stand by their convictions, and to fight for them, are sorely needed today.

To fight intelligently we must understand the opposition. I share with you your interest in international affairs. My purpose here tonight is to inform you on one significant area of world developments.

This is truly the age of science. Ninety percent of all the scientists who ever lived are living today. During this decade more money will be spent in scientific research and development than has been spent for that in all our previous history.

Through the achievements of modern scientists, man's knowledge is being extended farther and farther into outer space, and deeper and deeper into the secrets of this earth. We have learned much more about our solar system, the galaxy of which it is a part and the universe encompassing galaxy after galaxy. At the other end of the scale, we know more and more about the tiny universes which make up the basic structure of organic and inorganic matter. The horizons for potential good and potential evil appear practically unlimited.

Scientific accomplishments in the last few years have for the first time in history raised the issue of ultimate destruction of civilization as we know it, on this earth. At the same time, the prospect of unprecedented accomplishments in conquering disease and poverty have arisen. We are surrounded by the products of science in our everyday lives. World statesmen have been forced to grapple with issues fundamentally scientific in their nature.

This, then, is the scope and depth of the age of science. We laymen are but dimly aware of the new reaches of modern science.

Since we went to school even the language of science has changed. However, we do know its products and it is only prudent that we should try to understand the role that science plays in international affairs today.

My purpose tonight is to describe the place of science under international communism -- with particular reference to the attitude and accomplishments of the Soviet Union. My purpose is to share with you an understanding of the importance which the Communists attach to using scientific methods to promote their own ends. It is a part of the threat which international communism presents to our way of life.

The new era in science has given rise to expectations of what has come to be known in the free world as a second industrial revolution. Continuing research, the new techniques of automation, data processing, and control mechanisms promise a new abundance of products. These promise to better living conditions for people both in the more advanced countries, and in countries which are not yet industrially developed.

The Soviets and the Chinese Communists also foresee a new era. They, like us, expect to bring about new and more wonderful accomplishments by taking advantage of progress in science. Their term for this era is "the transition to Communism." Their aim is to promote a

fundamental change in the social structure of the entire world.

The Communists' preoccupation with science stems from the fact that Marxism-Leninism is devoutly believed by them to be the science of sciences. At the risk of oversimplification, their philosophical position can be stated briefly as follows: All events on this earth are subject to a materialistic or scientific explanation. Nothing, say the Communists, is beyond human understanding. All things can be reduced to equations. All processes in history, according to Marx and Lenin, are dialectical. Working in accordance with "scientific" laws, society is heading for one destination, the defeat of capitalism and the triumph of a classless society -- which, they say, is Communism.

So much for philosophy. What practical effect does this theory have on the conduct of our daily affairs? Why should we care if they choose to leave out of account the spiritual values which we cherish?

In practical terms, Lenin once said: "Communism is Marxism plus electrification." This slogan dates from the days when the Communists were rebuilding Russia after World War I. Electrification at that time was a peak scientific development. There was a crying need in the Soviet Union for cheap and widely available power. So, Lenin's slogan accurately depicts the Communist needs of that era,

to repair and build their country and to advance the development of the Soviet Union as a Communist state, through science.

This blend of Communist philosophy as allegedly scientific, the use of scientific methods as a means to a political end, and the identification of Communism with science, remain identified today in the minds of the Communist leaders. Many of the present Soviet political leaders have technical or scientific backgrounds.

One of the great accomplishments of modern science is its exploitation of nuclear energy. Nature can hold no secrets as far as the laws of physics are concerned. Scientists of all countries have long known the basic principles which led to the unlocking of nuclear energy. The application of these principles to weapons production requires an enormous program in research and development, a decision to establish priorities, and a whopping budget.

One of the primary applications of nuclear energy is, of course, in the weapons industry. The Soviets have mustered their resources to produce a variety of nuclear weapons. They have also developed formidable delivery systems -- again by application of known scientific principles and by efficient use of their talents and money under a carefully planned, high priority program.

Is their present status as a leading military power due to science or due to Communism?

To the Communists, such a question does not make good sense. The dedicated party members would argue that their accomplishments in building industrial and military power were possible only under Communism, and that Communism is itself the science of material progress. Many non-Communists argue that Soviet achievements in industry and rockets are tributes to the brains and energy of Soviet citizens. It has been argued by non-Communists that Soviet progress has been delayed because of the Communist system of government.

Has it been? Again, this is an academic question. The practical fact is that the Soviet Union has applied sound scientific theories and engineering practices to their bountiful supply of natural resources. It has become the second industrial power in the world, and a great military power.

One practical effect of the identification of science and Communism has been to enable the Soviet leaders to concentrate their national resources on those areas which contribute most to the building of material power. The Communist system of control and centralized planning has provided for major efforts in the development of basic heavy industries. The system has given top priority to research and development in the field of modern weapons. This is completely

consistent with the Marxist-Leninist program which called for the building of a mighty material base of power in the Soviet Union as a prelude to the transformation of world society into the final phases of Communism.

Soviet military power is based on a sound industrial structure which the Communists have built in slightly over forty years.

(Before I get too far in this presentation, let me remind you that although I shall be seeming often to praise the Soviet system, such is not my intent. Nor is it my intent to damn it. Rather, my sole purpose here, in the time available, is to inform you on one facet of that system. I could devote hours to telling you the price -- in my judgment, the unacceptable price - they pay in denials of human liberty and other basic rights alone. However, we need to discuss Communism more than we need to cuss it.)

In the early days of Communist control following World War I, the blind dedication to the principles of Marx and Lenin led to many absurdities. In an effort to wipe out the past and to demonstrate their superiority in science, the Soviets claimed to have invented almost everything under the sun. We still make jokes about these claims.

Vestiges of this attitude still remain. Earlier this year, your historic and gracious city was singled out for attention by the Russians who now argue that one of the more lively arts, Jazz, did not originate

here at all, but actually in Odessa. Ridiculous as these claims may seem, the making of them sheds some light on the attitude of the Communist leaders. Their own young people have become quite interested in jazz music, and there is little the Communist leaders can do to talk them out of this liking. Therefore, why not purify jazz? If one must listen to it, remove its capitalist label. Listen to the Soviet version and transfer its origin to Russia.

The Communists have received widespread publicity for their genuine scientific accomplishments. In addition to their placing a man in orbit, their scientists attained the first early satellite, the first cosmic satellite, the first impact on the moon, the first photograph of the backside of the moon, the first launching of a cosmic satellite from a space station, and they have put the heaviest satellite into orbit.

(Again, I do not have time to set the record completely straight. These "firsts" do not mean that the Soviets have established an irrevocable overall superiority. Their psychological impact is tremendous; their lasting significance and the Soviet ability to follow up are still moot questions.)

These accomplishments have had their impact outside the iron curtain, particularly in the underdeveloped areas of the world. Because of their space program, the opinion has spread that they are the leading

military power in the world. Communist propaganda has promoted this idea and replayed responses which tend to support their own conviction.

The well publicized achievements in industrial progress have also attracted great attention among the newly emerging countries -- whose most earnest desire is for rapid economic development.

The Communists refuse to accept any suggestions that their accomplishments are due primarily to the intellectual qualities of Soviet scientists and economic planners. They point instead to the successful and total integration of Soviet science within the framework of a totalitarian Communist society. If science alone were responsible, they argue, why have not the scientists of the capitalist world been able to make such rapid and dramatic progress? The Communists hailed their man in orbit as a triumph for the Communist system. Gagarin's first words on his return were to express gratitude to the Party for his chance to serve.

This argumentation is not intended primarily for us to accept or to refute. It is aimed at those many hundreds of millions of people in Asia, Africa, Latin America, who are overwhelmed by an image of Soviet space accomplishments and by the Communist propaganda that they have achieved industrially in forty years what it took the West about three hundred to do.

So far I have talked of the well publicized and obvious accomplishments of science in the Soviet Union. We get a daily stream of publicity about their accomplishments in space and in industry. The Communists do not publicize their failures and their weaknesses, but it is essential that we understand these, so that we have a proper balanced view of their strength.

At this time, we have a fairly accurate picture of the strengths and weaknesses of the Soviet Union. Our intelligence, like knowledge itself, is never perfect, but we have increasing confidence in our estimates of Soviet military and industrial power.

But -- to stick to the role of science, now let us look ahead. The image of science, especially to the layman, is very much like that of an iceberg. Only a small part is visible. The rest lies beneath the surface. There are fundamental trends in science, now in the process of development which, if correctly applied and integrated by the Communists, will greatly affect the future of the countries behind the iron curtain and indeed the entire world.

Militarily, we and the Soviets stand in an era when technological breakthroughs are possible and even probable, and we may go through a period called leapfrogging. For some years one side may appear to have an advantage even while the other is working to erase that advantage

and jump ahead. The ingenuity of scientists, the availability of funds and facilities, and the ability to concentrate these resources on priority programs will largely determine the relative degree of scientific progress. There is also, of course, the factor of a fundamental political decision based on a total judgment of the world situation. Whatever the accomplishments of modern science may be, this total decision involves a common sense factor which so far cannot be provided by any computing machine.

Soviet dedication to so-called scientific principles is intended to touch on all facets of society. They are engaged in a massive research program into the modern techniques of automation and process control in their industry. Their top scientific organizations are attached directly to the highest executive bodies of the Soviet Government. The methods of science are being applied in propaganda, in education, and in the area of individual human relations.

Soviet industry is at the point where the continued fulfillment of their programmed goals depends primarily on greater productivity. The use of advanced scientific methods for planning, controlling, and prediction has begun and will be a prominent feature in future Soviet economic planning.

In driving for international power status, the Soviets have left certain areas of their economy lagging behind. Here again, Soviet emphasis on scientific practices is being brought to bear to strengthen their weak points. Planning is underway for the introduction of so-called "integrated" industries characterized by strict planning and control of all processes from the mine to the end of the assembly line. The Soviet version of science has failed thus far on the farm. The attack through collectivization has not worked.

The Soviets have laid a solid foundation by emphasizing education in the sciences. Now, science is being applied to education itself. A long cherished ideal in Communist doctrine has been the creation of a new Soviet man. This individual will be the Communist citizen who will be able to live and contribute in the future society now beginning to be built. A steady attack on remnants of capitalist habits is maintained against the adults but the major effort is directed toward indoctrinating the Soviet children from the cradle on.

This is not a new idea. The Spartans tried it; Plato favored it; and our history and literature are full of accounts of ideal societies where the citizen has to be transformed to fit the norms of an ideal system. Members of the human race have always been most contrary in resisting efforts to elevate them to ideal, political heights. Revolutions have been crushed or dwindled away as our old habits proved too tough to handle.

We often say you can't change human nature. The Communists deny this. They say it is a scientific fact that human nature is what man chooses to make of it. They are acting on this premise.

At this time, a major Soviet device for engineering the new Soviet man is the boarding school program, started in 1956. There are now nearly one million children in these schools away from their homes and parents twenty-four hours a day, six days a week. They are subjected to the latest techniques in teaching and character-building to promote the future of Communism.

The Soviets plan to have two and one-half million such students by 1965. These boarding schools are not for children of the elite. They come mostly from large, low-income families, and the state foots the bill. They get a rigorous general educational program to begin with. and they get much more.

In addition to teachers, there is a staff of child psychologists who act as counselors and substitutes for the parents, and who concentrate

on instilling key Communist values, especially putting society's interests before the individual's. These schools are miniature collectives models of the future Communist society. Most of the schools now in existence include grades one through eight or one through eleven. The emphasis in the future will be on taking children at around three months and keeping them through secondary schools. Khrushchev says that the boarding school will eventually become the universal mode of education in the Soviet Union.

Now, let me turn to another aspect of science under Communist political guidance. The Soviets are not always rigid in the application of their ideological prejudices. When it comes to a conflict with practical results the ideology is put aside. Take the case of Lysenko, the notorious geneticist, whose theories have long been ridiculed by Western scientists and even by some of his Soviet colleagues. Khrushchev says this of him: "Lysenko is a narrow, authoritarian, sectarian individual who wished to impose his scientific doctrine on everybody by sending all those who didn't agree with him to Siberia. He's an impossible person. However, I prefer a bad character who can grow wheat to a good character who can't."

Even the Chinese Communists, who have themselves a vast basic educational program dedicated to progress in science, are not completely blind to the practical effects of some free thought. In an official editorial in February of this year, the Chinese called for truly creative work in the sciences. This editorial contains a particularly noteworthy sentence: "We cannot hold that after mastering Marxism-Leninism it will be easy to master scientific truth." This comes close to heresy. It denies that dialectical materialism is the greatest science. The Chinese have a massive program underway to provide the basic scientific education which the Soviets have already achieved. The Chinese are far behind as a scientific power, and they want results. If politics gets in the way, put it aside temporarily. If science contradicts Marx and Lenin, the Chinese will choose science -- temporarily.

The continuation of Lysenko in a position of prominence and the Chinese recognition of some independence of science are indications that there is a realistic factor in the Communist attitude toward practical matters. For example, under Stalin, state planning and control of the economy were all directed from Moscow. After Khrushchev came into power he changed this process and delegated much control to regional bodies outside Moscow. This he did in clear recognition that centralized control was less efficient than had been thought.

There is in effect an element of pragmatism in the Soviet attitude toward science which permits accomplishments in that field to be used by them, even though they may appear to contradict the sacred doctrines of Marx and Lenin. Thus, they belie their dedication to the rigid Communist ideology. To some, this raises the hope that the Communists may lose their fervor for world revolution. At this time, however, one must consider their arrogance and pride -- not to mention their actions in Laos and the Congo, for instance -- as omens to warn us.

For years, we have thought of the Soviets as trying to make robots of their people, following the classic example of Pavlov, the student of the conditioned reflex. The children being brought up under the new school system, which I have described briefly, are by no means robots. On the contrary, they strike Western observers as exceptionally well-rounded,

capable of initiative, and well trained in the basic mental disciplines. Such could be Western children, except for several big differences. One is that they are aimed, like a weapon, at the target of promoting Communism.

The experience of the Chinese Communists with the communes, the most radical reorganization of human society ever attempted, is again indicative of the Communists' fundamentally practical attitude. The communes were established on the most solid foundations of theoretical, pure radical revolutionary Communism. The Chinese thus hoped to advance the achievement of a Communist society by years, even generations, even though the Russians criticized the program.

What has happened? The violent social and economic dislocations of the communes played havoc with agricultural production. In the interests of practicality, the Chinese Communists now have abandoned communes in practice, while still paying lip service to the idea.

There is no reason to belittle or magnify the accomplishments of scientists living under the Communist regimes. There is no reason to draw invidious comparisons between our efforts and their efforts. What we must recognize is that the accomplishments are real, and that their successes so far have led them to place even more emphasis on scientific research and development in what Khrushchev calls "the splendid years under Communism."

Science, then, is the servant of Communism. Stripped of all its usual verbiage, Communism is a future social order being constructed out of present day socialism through the application of science. We must understand this attitude, whether we accept it or not. We must recognize that the vast scientific resources of the Soviet Union and the growing strength of China are being integrated with their political ambitions to reconstruct society in the Communist countries and eventually in the entire world.

I cannot foresee the day when thinking machines will replace human beings. Nor do the Communists. But recognizing their single-minded dedication to world revolution, we should stand forewarned that every resource available to modern science is being used by the Communists to advance their political ends.

The better we understand this, the better we understand the nature of the challenge which Communism presents. The better informed we are, the more intelligently we can make use of our own strengths and resources to ensure that the accomplishments of modern science are enlisted in the service of all mankind and not just for those who advocate a particular dictatorial political system.